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The Honorable Ajit Pai
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

August 4, 2017

Re: WT Docket No. 16-290, *TerreStar Corporation Request for Relief of Certain 1.4 GHz Construction Requirements*

Dear Chairman Pai:

On October 4, 2016, GE Healthcare ("GEHC") filed comments in the above-referenced proceeding supporting TerreStar Corporation's ("TerreStar") request for a 36-month waiver of the substantial service requirements applicable to commercial wireless licenses in the 1.4 GH band.[1] Other members of the healthcare community have also expressed support for TerreStar's waiver request.[2]

For the reasons discussed below, we take this opportunity to reiterate our support for TerreStar's request and urge the Commission to expeditiously grant TerreStar a 36-month waiver. Granting such a waiver would help make additional spectrum available to meet the growing need for safety-of-life wireless medical telemetry, such as heart rate and oxygen saturation monitoring, and help to improve patient care and mobility.

**TerreStar's previously envisioned 1.4 GHz service would have been detrimental to hospitals and their patients.** Although arguably permitted under the FCC's Part 27 rules, TerreStar's previously envisioned 1.4 GHz WiMAX Smart Grid network posed an unacceptable interference risk to hospitals' L Band Wireless Medical Telemetry Service ("WMTS") systems, representing a significant danger to patient safety. Other members of the healthcare community raised these concerns.[3] GEHC agrees with them and TerreStar that the power level and adjacent

[1] *See* GEHC, Comments, WT Docket No. 16-290 (filed Oct. 4, 2016) ("GEHC Comments"); TerreStar, Request for Temporary Waiver of Substantial Service Requirements, WT Docket No. 16-290 (filed Sept. 15, 2016) ("TerreStar Request").

[2] *See, e.g.*, Philips Healthcare, Comments, WT Docket No. 16-290 (filed Oct. 4, 2016); Letter from Lawrence J. Movshin, Counsel to the American Society for Healthcare Engineering of the American Hospital Association ("ASHE"), to the FCC's Wireless Telecommunications Bureau, WT Docket No. 16-290 (filed Nov. 10, 2016).

[3] *See, e.g.*, Letter from Regina M. Keeney, Counsel, TerreStar, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 16-290, at 2-4 (filed June 14, 2017) (explaining that, in response to these concerns, TerreStar evaluated the risk and "confirmed that, even if compliant with the Commission's rules, smart-grid WiMAX operations in TerreStar's licensed spectrum would likely have a significant, deleterious impact on existing life-critical WMTS devices and systems.").

band emission limits specified in Part 27 would not prevent 1.4 GHz WiMAX systems from interfering with existing WMTS systems.[4] TerreStar's most recent proposal for use of its licensed spectrum acknowledges this fact, and is far more compatible with WMTS uses.

**The nation's hospitals need additional wireless medical telemetry capacity.** The American Society for Healthcare Engineering of the American Hospital Association ("ASHE") estimates that WMTS systems are deployed in over 3,700 unique locations. The number of locations that use WMTS is expected to increase significantly in the future as hospitals seek to better address the problems raised by an aging U.S. patient population and increased patient acuities.[5]

The Commission can help address this growing need by granting TerreStar's waiver request. TerreStar plans to use its licensed 1.4 GHz spectrum to support wireless medical telemetry operations in the 1390-1392, 1392-1395, and 1432-1435 MHz bands.[6] This additional spectrum would increase the capacity for such 1.4 GHz operations by approximately 67 percent.[7] The spectrum is also well situated, as it is adjacent to two bands that are already used for WMTS.[8] In particular, the 1392-1395 MHz band could be used for innovative wireless medical telemetry applications outside of healthcare facilities.[9] And the 1432-1435 MHz band would fit neatly into the current framework for WMTS under Part 95 of the Commission's rules.[10]

**GEHC will be ready to deploy wireless medical telemetry systems that use TerreStar's 1.4 GHz spectrum.** GEHC has engaged in numerous discussions with TerreStar and its representatives over the past several years. We appreciate TerreStar's interest in protecting WMTS systems from harmful interference and enhancing wireless medical telemetry capabilities in response to growing healthcare needs. We also agree with TerreStar that the development of wireless medical telemetry in its licensed 1.4 GHz spectrum will take at least three years. TerreStar, equipment manufacturers, and healthcare providers must work together through a number of complex issues to realize this deployment.[11]

Wireless medical telemetry manufacturers and TerreStar will file a joint proposal with the FCC to help guide future rule-making in this area once we have agreed on required rule changes and operational procedures for wireless medical telemetry deployments in the 1390-1392, 1392-1395, and 1432-1435 MHz bands. However, as an important first step, we urge the Commission to grant TerreStar's request for a temporary waiver of its 1.4 GHz license substantial service requirement until April 1, 2020.

**Television Channel 37 remains critical to WMTS.** Finally, we emphasize that our support for TerreStar's waiver request in this proceeding in no way suggests that Channel 37's

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[4] *See, e.g., id.*

[5] *See, e.g.*, GEHC, Comments, GN Docket No. 16-46, at 2-3.

[6] *See, e.g.*, TerreStar Request at ii.

[7] *See, e.g., id.* at 1-2.

[8] The 1395-1400 and 1427-1431.5 MHz bands are currently dedicated to WMTS. *See, e.g., id.* at 8.

[9] It may be necessary to limit use of this spectrum within hospitals to protect WMTS systems operating above 1395 MHz from harmful interference. *See, e.g., id.* at 16.

[10] *See, e.g., id.* at 2. GEHC believes that ultimately at least the 1432-1435 MHz portion of TerreStar's spectrum should be folded into the existing WMTS rules under Part 95 via a separate rulemaking proceeding.

[11] *See, e.g.*, TerreStar Request at 2-3; GEHC Comments at 4.

importance to WMTS has diminished. The 1.4 GHz band has the potential to further supplement, but not replace, Channel 37 as a home for wireless medical telemetry, as we have previously explained.[12]

Consistent with Section 1.1206(b) of the Commission's rules, please associate this letter with the above-referenced docket.

Respectfully,

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[12] *See, e.g.*, GEHC Comments at 5.